Listing of Claims with claim amendments

Claims 1-20 (Canceled)

21. (Previously presented) A system for scanning an item in a scan volume, comprising

a light source generating a light beam along a beam path;

a primary scan mirror disposed in said beam path for scanning said light beam over a scan angle in a first scan plane;

a secondary scan mirror dithering said light beam over an angle in a second scan plane perpendicular to said first scan plane, said primary scan mirror and said secondary scan mirror scanning the beam to produce a two dimensional scan pattern;

a detector;

a collection system for collecting return light from reflecting off the item, said collection system, wherein said return light is retrodirectively collected with respect to said primary scan mirror and non-retrodirectively collected with respect to said secondary scan mirror.

22. (Previously presented) A system according to Claim 21 wherein said primary scan mirror comprises a facet wheel.

23. (Previously presented) A system according to Claim 21 wherein said collection system comprises a collection lens.

24. (Previously presented) A system according to Claim 21 wherein said collection system comprises one or more collection elements selected from the group consisting of collection lenses, collection mirrors, and holographic elements.

25. (Previously presented) A system according to Claim 21 wherein said light source comprises a laser diode generating said light beam.

26. (Previously presented) A system according to Claim 21 further comprising

a plurality of pattern mirrors, wherein said primary scan mirror scans the light beam across said plurality of pattern mirrors.

27. (Previously presented) A system for scanning an item in a scan volume, comprising

a light source generating a light beam along a beam path;

a primary scan mirror disposed in said beam path for scanning said light beam over a first scan angle in a first scan plane;

a secondary scan mechanism disposed in said beam path between said light source and said primary scan mirror for dithering said light beam over an angle in a second scan plane different from said first scan plane;

a detector;

a collection system for collecting return light reflecting off the item and for focusing said return light toward said detector, wherein said return light is retrodirectively collected with respect to said primary scan mirror and non-retrodirectively collected with respect to said secondary scan mechanism.

28. (Previously presented) A system according to Claim 27 further comprising a controller for selectively activating or deactivating one or both said primary scan mirror and a secondary scan mechanism.

29. (Previously presented) A system according to Claim 28 wherein said controller slowly moves the secondary scan mechanism to migrate a scan pattern through the scan volume.

30. (Previously presented) A method for scanning comprising the steps of

generating a first reading beam along first path toward a primary scan element;

dithering the first reading beam over a first scan angle and onto the primary scan element;

generating a first scan pattern by scanning the dithered first reading beam with the primary scan element across a plurality of pattern mirrors and into a scan volume;

collecting return light from the first reading beam reflecting off an object in the scan volume by (1) retrodirectively collecting off the primary scan element, (2) non-retrodirectively collecting relative to and bypassing the dithering mechanism, and (3) focusing the return light toward a first detector.

31. (Previously presented) A method according to Claim 30 wherein the step of focusing the return light comprises focusing with one or more collection elements selected from the group consisting of collection lenses, collection mirrors, and holographic elements.

32. (Previously presented) A method according to Claim 30 wherein the primary scan element comprises a facet wheel.

33. (Previously presented) A method according to Claim 30 further comprising slowly dithering the reading beam for migrating a scan pattern through the scan volume.

34. (Previously presented) A method according to Claim 30 further comprising

generating a second reading beam along second path toward the primary scan element;

dithering the second reading beam over a second scan angle and onto the primary scan element;

generating a second scan pattern by scanning the dithered second reading beam with the primary scan element across a plurality of pattern mirrors and into the scan volume;

collecting return light from the second reading beam reflecting off an object in said scan volume by (1) retrodirectively collecting off said primary scan element, (2) non-retrodirectively collecting relative to and bypassing said dithering mechanism, and (3) focusing said return light toward a second detector.

35. (Previously presented) A system for scanning an item in a scan volume, comprising

a housing having at least one window;

a light source disposed in said housing and generating a light beam along a beam path;

a primary scanning mirror disposed in said housing and positioned in said beam path for scanning said light beam over a first scan angle in a first scan plane;

a secondary scanning mechanism disposed in said housing and positioned in said beam path between said light source and said primary scanning mirror for scanning said light beam over an angle in a second scan plane perpendicular to said first scan plane, said primary scanning mirror and said secondary scanning mechanism scanning the beam to produce a two dimensional scan pattern;

a detector;

a collection system for collecting return light from reflecting off the item and focusing said return light toward said detector;

a weigh scale incorporated into said housing;

a controller in communication with said weigh scale, wherein said controller selectively activates or deactivates a selected one of said primary scanning mirror and said secondary scanning mechanism depending upon whether an object is detected as being weighed on said weigh scale.

36. (Previously presented) A system for scanning an item in a scan volume, comprising

a housing having at least one window;

a light source disposed in said housing and generating a light beam along a beam path;

a primary scanning mirror disposed in said housing and positioned in said beam path for scanning said light beam over a first scan angle in a first scan plane;

a secondary scanning mechanism disposed in said housing and positioned in said beam path between said light source and said primary scanning mirror for scanning said light beam over an angle in a second scan plane generally perpendicular to said first scan plane, said primary scanning mirror and said secondary scanning mechanism scanning the beam to produce a two dimensional scan pattern;

a detector;

a collection system for collecting return light from reflecting off the item and focusing said return light toward said detector;

a weigh scale incorporated into said housing;

a controller in communication with said weigh scale, wherein said controller selectively activates or deactivates a selected one of said primary scanning mirror and said secondary scanning mechanism depending upon whether an object is detected as being weighed on said weigh scale,

wherein said return light is retrodirectively collected with respect to said primary scanning mirror and non-retrodirectively collected with respect to said secondary scanning mechanism.

37. (Previously presented) A system according to Claim 35 wherein said secondary scanning mechanism is activated upon detection of an object being weighed on said weigh scale.

38. (Previously presented) A system according to Claim 35 wherein said controller activates said primary scanning mirror to be operative during a first mode of operation and upon detection of the object being weighed on said weigh scale, said controller also activates said secondary scanning mechanism to be operative in addition to said primary scanning mirror.

39. (New) A system for scanning an item in a scan volume, comprising

a housing having at least one window;

a light source disposed in said housing and generating a light beam along a beam path;

a primary scanning element comprised of a facet wheel disposed in said housing and positioned in said beam path for scanning said light beam across a plurality of pattern mirrors. the facet wheel having an axis of rotation;

a secondary scanning element positioned in said beam path between said light source and said facet wheel for scanning said light beam in a plane generally parallel to the axis of the facet wheel;

a detector;

a collection element disposed in the beam path for retrodirectively collecting via the facet wheel return light reflecting off the item and directing said return light toward said detector,

wherein the secondary scanning element is disposed in the collection element.

40. (New) A system according to Claim 39 wherein the secondary scanning element is operable while the facet wheel is being rotated creating additional scan pattern coverage.

41. (New) A system according to Claim 39 further comprising a controller for selectively activating or deactivating one or both said primary scanning element and said secondary scanning element.